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<p>(21) International Application Number: PCT/BY96/00008 (22) International Filing Date: 10 September 1996 (10.09.96) (30) Priority Data: 960404 2 August 1996 (02.08.96) / BY (71)(72) Applicants and Inventors: KOBELEV, Jury A. [BY/BY]; Surganova Street 53-55, Minsk, 220100 (BY). SIVAKOV, Alexandr P. [BY/BY]; Kalinina Street 23-14, Minsk, 220012 (BY). BRODKIN, Vladimir M. [RU/RU]; Ordgonikidze Street 53/56-22, St.-Petersburg, 196233 (RU). (74) Agent: GORYACHKO, Mariam Sh.; P.O. Box 133, Minsk, 220012 (BY).</p>		<p>(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.</i></p>
<p>(54) Title: APPLICATOR FOR SURFACE REFLEX THERAPY</p> <div data-bbox="349 1102 1323 1543" data-label="Image"> </div> <p>(57) Abstract</p> <p>Invention relates to medicine, to physiotherapy units and devices and provides the increase of effectiveness of treatment at the expense of a changed applicator design, the dielectric plate of which comprises magnetic material.</p>		

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## DESCRIPTION

## APPLICATOR FOR SURFACE REFLEX THERAPY.

Technical Field

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The present invention relates to medicine, to physiotherapy units and devices and may be used in rehabilitation departments, physiotherapy, reflexotherapy rooms, health centres and at home.

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Background Art

Known is the applicator (patent of Republic of Belarus N 1256) made in the form of a dielectric plate with metal needles spaced in 5 mm thereon, said needles are made as  $\Pi$ -shaped cramps the lateral base of which is pressed into the dielectric plate.

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The aforementioned applicator presents a prototype relating to the filed one. The common feature of the prototype and the filed applicator is  $\Pi$ -shaped cramps pressed into the dielectric plate.

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Disclosure of the Invention

The present invention is aimed at increasing the effectiveness of medical treatment at the expense of the changed applicator design.

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The aim of the present invention is realized by flexible dielectric plate containing magnetic material which provides magnetic induction. Such design peculiarity provides the increase of anti-inflammatory, anti-

oedema, anaesthetic and stimulating certain tissues regeneration action at the expense of alteration of T- and B-lymphocytes and blood immunoglobulin, stimulation of biosynthesis processes (rebonucleic acid, gluconeogenesis, activation of glucocorticoid function of adrenal cortex).

### Best Mode for Carrying out the Invention

The present invention is supplied with Figure (fig.1), where

- 1-  $\Pi$  -shaped cramp;
- 2- applicator dielectric plate;
- 3- magnetic material

Magnetic material may be pressed into polyethelene applicator plate or positioned on the external side of said plate. Magnetic induction equals to 1-80 MT.

Example 1. Patient K. Aged-42. Clinical diagnosis: Verterobrogenic (L. IV-V) left-sided moderate ischemic lumbago with muscle tone and vasoneurosis manifestations.

In the process of treatment and when choosing the areas of influence, it is necessary to take into account the patient's symptoms, i.e. to localize the pain syndrome and pain irradiation, dynamics and character of the pain syndrome, etc. as well as take into account traditionally used methods of treatments of such patients by physiotherapy and reflexotherapy. On the basis of said methods the treatment is conducted locally, sequentially and in accordance with the rules used in acupuncture and reflexotherapy. To treat the aforementioned patient, the applicator was positioned symmetrically in the small of the back and sacrum area sequentially during 4 treatment procedures. During next 4

treatments the applicator was positioned alternately on the back hip surface and shin and in small of the back and sacrum area. The total treatment time was 25-30 min. Period of treatment was 8-10 treatment procedures.

5 To provide a course of medical treatment, patients with the aforesaid diagnosis were selected. All the patients were divided into two groups. In the first group of patients a new applicator design was used which made it possible to provide a combined influence of metal needles and constant magnetic field. In the second group of patients ( the control  
10 one ) the prototype applicator was used. Evaluation of treatment results was conducted according to dynamics of the reverse development of neurologic symptomatology, reovasographic investigation data, electroencephalogram, pain syndrome scale evaluation. In the first group the therapeutic effect was observed for 85% of patients. This was confirmed by a more rapid reverse development of neurologic symptomatology and first of all by the intensity decrease of the pain syndrome after the first treatment procedures, significant decrease of reflexotonic muscular tension in the small of the back and sacrum area and decrease of the manifested scoliosis, increase of active and passive  
15 movements volume and decrease of Lasseque symptom, etc. At the same time normalization of electrophysiological data was observed.

In the second group of patients the dynamics of reverse development of symptoms was less evident, slower and the therapeutic effect was 74%. It is worth noting that in the first group of patients the positive results of treatment were especially evident for patients with manifested  
25 vasoneurosis disturbances. The aforementioned observation coincides with data presented in literature and concerned with high effectiveness of magnetic field in the process of treatment of patients with vasoneurosis disturbances.

Thus in comparison with the prototype the filed applicator provides the increase of therapeutic effectiveness. Therapeutic effect of the filed applicator, to our opinion, is due to complex, combined action of metal needles and magnetic material which makes it possible to use the developed magnetic field in the area of influence for treatment purposes.

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**APPLICATOR FOR SURFACE REFLEX THERAPY.****CLAIMS**

- 5      Applicator for surface reflex therapy containing a flexible dielectric plate with fixed theron metal needles made as  $\Pi$  -shaped cramps the lateral base of which is pressed into said plate, characterized by dielectric plate containing magnetic material.

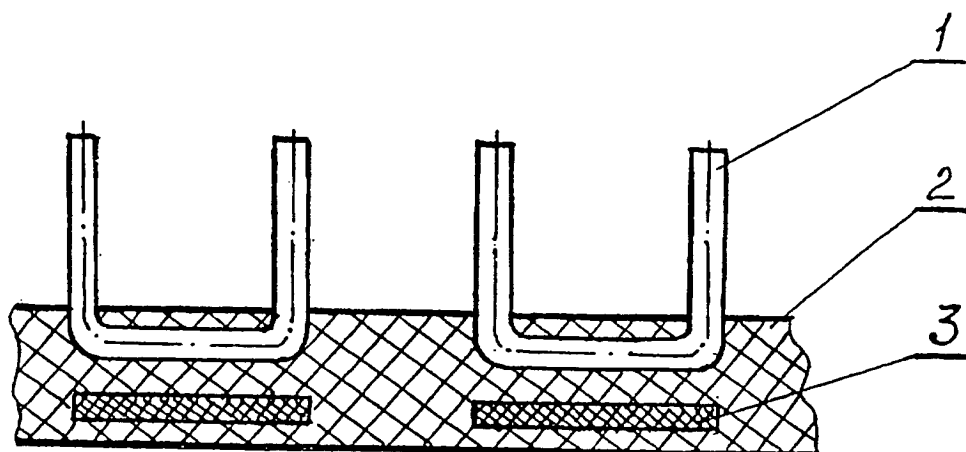


FIG. 1



# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/BY 96/00008

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 6 A61H39/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 6 A61H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>DATABASE WPI Section PQ, Week 9042 Derwent Publications Ltd., London, GB; Class P33, AN 90-319061 XP002032442 &amp; SU 1 551 381 A (KIEV ORTHOPAEDIC) , 23 March 1990 see abstract</p> <p style="text-align: center;">---</p>	1
A	<p>DATABASE WPI Section PQ, Week 9510 Derwent Publications Ltd., London, GB; Class P33, AN 95-073498 XP002032443 &amp; SU 1 834 655 A (AS BELO METAL POLYMER SYSTEMS MECH INST) , 15 August 1993 see abstract</p> <p style="text-align: center;">---</p> <p style="text-align: center;">-/--</p>	1

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☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

5 June 1997

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 035 932 A (FLUX YANG SOCIETE CIVILE) 16 September 1981 see page 4, line 17 - page 5, line 21; figures 1,2 ---	1
A	DATABASE WPI Section PQ, Week 9027 Derwent Publications Ltd., London, GB; Class P33, AN 90-208495 XP002032444 & SU 1 512 609 A (KACHALA V V) , 7 October 1989 see abstract -----	1

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..information on patent family members

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